

## **Introduction Soil and Site Information**

Section II provides information about the soils of the counties of Arkansas. This information, which includes limitations, potentials, and soil properties, is useful in making decisions about land use and management.

A brief description of section contents follows:

### **Introductory Information**

In this subsection, an explanation of soil interpretations and their use is provided.

### **Soils Information from NASIS**

The basis for this section is the Data Map Unit which is stored in the National Soil Information System (NASIS). NASIS contains the most up-to-date information for each map unit which has been edited or tailored by state and area specialists to represent local ranges in the data.

### **Soil Legends**

This subsection includes a list of the soil map units in the county and the acreage and proportional extent of each map unit.

### **Nontechnical Soil Descriptions**

In this subsection the soils are described in lay terms.

### **Technical Soil Descriptions**

The technical soil descriptions are referenced to the published soil survey or the soil survey manuscript if the soil survey is complete, but not yet published.

### **Interpretations**

These subsections contain soil interpretations for:

- Cropland
- Rangeland, Grazed Forestland, Native Pastureland
- Forestland
- Nonagricultural
- Recreation

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- Wildlife
- Pastureland and Hayland
- Mined Land
- Windbreak
- Engineering
- Waste Disposal
- Hydric Soil
- Water Quantity and Quality

Most of the soils information is presented in the form of tables and arranged alphabetically by map unit name. Explanatory text precedes the tables in the hardcopy version. Explanatory text follows for the web-based version.

## SOIL and SITE INFORMATION

Information from the National Soil Information System (NASIS) will be used as a basis for this section in Arkansas. NASIS contains current information for each map unit which has been edited or tailored by state and area specialists to represent local ranges in the data. State and area specialists will provide detailed interpretations of soils in Section II.

Interpretations are specific to the soils identified and mapped in the soil survey area. Map units to which interpretations apply are clearly identified by name, symbol/s, or both. New map unit names and symbols resulting from reclassification of soils are cross-referenced to old names and symbols and shown on a list.

Soils are to be described and interpreted to help make decisions about use and management of land. Soil characteristics that limit or affect land use and management are to be identified, and soils are to be rated according to capability, limitations, potential, and/or suitability.

This information is available in the NASIS. **A copy of the interpretative material is on file in Section II of the Field Office Technical Guide in each county.**

## **USE and EXPLANATION of SOIL INTERPRETATIONS**

The basis for this section is the Data Map Unit, which is stored in the National Soil Information System (NASIS). NASIS contains the most up-to-date information for each soil map unit, which has been edited or tailored by state and area specialists to represent local ranges in the data.

Soil survey interpretations are predictions of soil behavior for specified land uses and specified management practices. They are based on the soil properties that directly influence the specified use of the soil. Soil survey interpretations allow users of soil surveys to plan reasonable alternatives for the use and management of soils. They are used to plan both broad categories of land use, such as cropland, pastureland, rangeland, woodland, or urban development, as well as specific elements of those land uses, for example, equipment use in woodland management, irrigation of cropland, or septic tank absorption fields.

When soil interpretations are used in connection with delineated soil areas on soil maps, the information pertains to the soil for which the soil area is named. Other soils that are in areas too small to map may occur within the delineated area. The interpretations ordinarily do not apply to the included soils. More detailed studies are required if small, specific sites are to be developed or used within a given soil delineation. For example, a soil delineation bearing the name Loring silt loam, 1 to 3 percent slopes, also can include small, unmappable areas of other soils, such as Galloway and Henry soils. The interpretations apply to the Loring part of the delineated soil area and not to the included soils.

Soil interpretations will not eliminate the need for onsite study and testing of specific sites for the design and construction for specific uses. They can be used as a guide to planning more detailed investigations and for avoiding undesirable sites for an intended use. The soil map and interpretations can be used to select sites that have the least limitations for an intended use. No consideration was given in these interpretations to the shape and size of soil delineations nor to the pattern they form with other soils on the landscape. For example, some very desirable soil areas are too small, too irregular in shape, or occur with less desirable soils in a pattern too complex for the intended use. Although not considered in the interpretations, these items should influence the final selection of a site.

## KEY PHRASES USED in SOIL INTERPRETATIONS

Soil interpretations typically list the degree of limitation or suitability and factors affecting use of the soil for agricultural and nonagricultural purposes. The interpretations apply to the soils in their natural site (unless indicated otherwise) and not for areas that are altered by cut or fill operations.

Rating classes developed for interpretations in NASIS are expressed in the tables in terms that indicate the extent to which the soils are limited or not limited by all of the soil features that affect a specified use. Terms for the limitation classes are **not limited**, **slightly limited**, **moderately limited**, **limited**, and **very limited**. In certain tables, the soils are rated as improbable, possible, or probable sources of specific materials used for construction materials.

**Not limited** indicates that the soil has features that are favorable for the specified use. Good performance and very low maintenance can be expected.

**Slightly limited** indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected.

**Moderately limited** indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

**Limited** indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but generally require special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate to high maintenance can be expected.

**Very limited** indicates the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

### Numerical Ratings

Numerical ratings in the tables indicate the severity of individual limitations. They also indicate the overall degree to which a soil is limited or not limited for a specific use. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited	0.00
Slightly limited	0.01 to 0.30

Moderately limited	0.31 to 0.60
Limited	0.61 to 0.99
Very limited	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

In tables that use limitation class terms, such as very limited or limited, the limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as three soil features may be listed for each map unit component. The overall limitation rating for the component is based on the most severe limitation.

**Explanation of key phrases used are as follows:**

<b><u>Factors affecting:</u></b>	<b><u>Explanation</u></b>
Area reclaim	Borrow areas hard to reclaim.
Cemented pan	Cemented pan to close too surface.
Complex slope	Slopes short and irregular.
Cutbanks cave	Wall of cuts not stable.
Deep to water	Deep to permanent water table during dry season.
Dense layer	Avery firm layer difficult to dig.
Depth to rock	Bedrock too close to surface.
Droughty	Soil cannot hold enough water.
Dusty	Soil particles detach easily and cause dust.
Erodes easily	Water erodes soil easily.
Excess fines	Contains too much silt and clay.
Excess gypsum	Contains too much gypsum.
Excess humus	Contains too much organic matter.
Excess lime	Carbonates restrict plant growth.
Excess salt	Water-soluble salts may restrict plant growth.
Excess sodium	Contains too much exchangeable sodium.
Excess sulphur	Excessive amount of sulphur in the soil may cause
Fast intake	Water infiltrates rapidly.
Favorable	Features of soil favorable.
Flooding	Soil temporarily floods by stream overflow, runoff, or high tide.
Fragile	Soil that is easily damaged by use or disturbance.
Frost action	Freezing and thawing can damage structures.
Hard to pack	Difficult to compact.
Low strength	Soil not strong enough to adequately support loads.
No water	Too deep to ground water.
Percs slowly	Water moves through the soil too slowly.

Piping	Water may form tunnels or pipe like cavities in the soil.
Ponding	Standing water on soils in closed depressions.
Poor filter	Because of rapid permeability, the soil may not adequately filter effluent.
Poor outlets	Difficult or expensive to install outlets for drainage.
Rooting depth	Soil is thin over layer that greatly restricts root growth.
Seepage	Water moves through soil or fractured bedrock too fast.
Shrink-swell	Soil expands significantly on wetting and shrinks on drying.
Slippage	Soil mass susceptible to movement down slope, when loaded, excavated, or wet.
Slope	Slope is too great.
Slow intake	Water infiltration restricted.
Slow refill	Ponds fill slowly because of restricted soil permeability.
Small stones	Contains many rock fragments less than 10 inches across.
Soil blowing	Soil easily moved by wind.
Subsides	Settle of organic soils or of soil containing semifluid layers.
Thin layer	Inadequate thickness of suitable soil.
Too acid	Soil is so acid that growth of plants is restricted.
Too arid	Soil is too dry most of the time.
Too clayey	Soil slippery and sticky when wet and slow to dry.